REMARKS

This paper responds to the Non-Final Office Action mailed June 21, 2007. Claims 15, 17 and 20-21 have been canceled. New claims 24 and 25 have been added to more fully claim the invention. Claims 1-14, 16, 18-19 and 22-25 are pending in the application.

In paragraph 1 of the Office Action the Examiner rejects claim 1-12 and 19 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, claims 1 and 19 recite the phrases "alternative correlator coefficient." Applicants respectfully submit that these alternative sets of coefficients are defined and well supported in the specification. See specification, paragraphs [0011], [0016], [0019], and [0042], among others. Applicants respectfully request withdrawal of this rejection.

In paragraph 2 of the Office Action, claims 1-23 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. In particular, the Office Action contends that the claims "must include a practical application with a concrete, useful and tangible result." Applicants respectfully traverse this rejection.

Applicants respectfully submit that the claims, as amended, meet the useful, and concrete and tangible result requirement for patentable subject matter under 35 U.S.C. § 101, because the claims recite generating a "correlator output signal" from claim 1, a "first correlation signal in claim 13, a "complex valued correlation result signal" in claim 22 and "a first correlation signal" in claim 24. As far as Applicant is aware, meeting of this test alone satisfies the requirement under § 101.

As stated in *State Street Bank and Trust Company v. Signature Financial Group Inc.*, 47 U.S.P.Q. 2d 1596, 1601-2 (Fed. Cir. 1998), a claim satisfies the requirement of § 101 if "the practical application of the abstract idea produces a useful, concrete and tangible result." Applicants are unaware of any further test, as indicated in the Office Action, such that a determination of whether "the claimed apparatus is implemented by hardware or software." This issue is not a requirement that is either specified in the statue, the Code of Federal Regulations or the currently applicable laws of the United States of America. Significantly, this test has never been required by the courts. In applying this test, the Office Action cites "Interim Guidelines for examination of patent applications for patent subject matter eligibility." O.G. Date: 22 November 2005. Applicants respectfully submit that this test is quite contrary to long standing law and that it is irrelevant whether the steps of the claims can be carried out on hardware or software.

In fact, Applicants respectfully submit that the present invention is clearly within the definition of patentable subject matter or "technical arts" that is stated in the Office Action. The United States Supreme Court has stated that patentable subject matter has been interpreted to be "anything under the sun that is made by man." *Diamond v. Chakrabarty*, 47 U.S. 303 (1980). What may not be patentable has been identified by the Supreme Court as "laws of nature, natural phenomena, and abstract ideas." *Id.* at 309. The present invention is not claiming any of these non-patentable subjects. In addition, there has been no requirements by the Courts of the United States that method claims cannot be entirely carried out by hardware or software, nor has the Examiner cited any cases stating such a requirement.

As such, the currently pending claims clearly satisfy the requirements of 35 U.S.C. § 101. Accordingly, this rejection must be withdrawn as there is no reasonable basis to apply it in the present case.

In paragraphs 3 and 4 of the Office Action, the Examiner rejects claims 1, 5-7, 9 and 11-12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,122,654 to Zhou et al. (Zhou). The Examiner's rejection on this ground is respectfully traversed.

Among the limitations of independent claim 1 which are neither disclosed nor suggested in the art of record is the requirement of "scaling the plurality of real signal digital samples in accordance with a selected sequence alternative correlator coefficient" and "scaling the plurality of imaginary digital samples in accordance with the selected sequence of alternative correlator coefficient." As admitted by the Office Action, Zhou teaches "multiplication elements." As clearly shown in Fig. 5, Zhou provides no teachings of selecting particular correlator coefficients that can be used to scale digital samples. Instead, Zhou uses multipliers to weight the contribution of samples. See Zhou, Fig. 5, elements 64-66, 71-73, 76, 78 and 80. Multiplication is not the claimed scaling step in Applicant's invention. In the absence of any disclosure or suggestion this feature in the invention, claim 1 is believed to be in condition for allowance.

Claims 2-12 depend from claim 1 and include all the limitations found therein, and therefore are allowable for the same reasons. In addition, these claims recite additional limitations which, in combination with the limitations of claim 1, are not disclosed or suggested in the art of record.

In paragraph 7 of the Office Action, claims 4, 8 and 13-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhou in view of U.S. Patent No. 4,791,597 to Miron et al. (Miron). The Examiner's rejection on these grounds is respectfully traversed.

Among the limitations of independent claim 13 which are neither disclosed nor suggested in the art of record are the requirements of "at least one digital signal processor, each processor having a plurality of input and at least one output, that performs all of the operations from the group consisting of bitwise scaling, addition, time-wise shifting and inversion on one or more of two streams from the plurality of streams and a current value of a sample from the plurality of streams of samples" and "where in each processor bitwise scaling operation depends on a set of correlator values that generate the first correlation signal compliant with either HIPERLAN/2 or IEEE 802.11a WLAN specifications." Among the limitations of independent claim 22 which are neither disclosed nor suggested in the prior art of record is the limitation of "scaling, in accordance with a selected 16-point representation, at least one stored single sample by an operation from the group consisting of inverting and shifting where the 16-point representation is "complaint with IEEE 802.11a WLANs or HIPERLAN/2." As discussed above in connection with claim 1, Zhou discloses multiplication and does not disclose selecting coefficients that eliminate the need for multiplying, and instead permitting scaling. Miron fails to cure.

Miron discloses a "multiplierless digital FIR filter comprising a plurality of serially cascaded stages providing a non-linear series of two to the N^{th} power coefficient values,

and in which quantization error is reduced by scaling the coefficient values to minimize the root mean square error." Miron, Abstract.

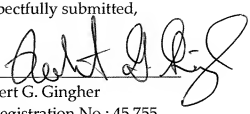
Miron fails to disclose a sequence of coefficients that would render a correlator that is compliant with IEEE 802.11a WLAN or HIPERLAN/2. Miron discloses choosing real-number coefficient values that produce a "response [that] approximates the required transfer function" for the filter. Miron, col. 5, 11. 10-11. In contrast, Applicants claim "An apparatus that generates a correlation signal" and "A method for correlating a complex-valued received signal samples," not a finite impulse response filter. The coefficients claimed by Applicants are real or imaginary, whereas Miron teaches only real number coefficients. See Miron, col. 5, ll. 3-2. Finally, Miron fails to disclose coefficients that are compatible with either IEEE 802.11a WLAN or HIPERLAN/2 specifications. In the absence of any disclosure or suggestions of these claimed features of the invention, claims 13 and 22 are allowable over the cited prior art.

Claims 14, 16, 18 and 19 depend from claim 13 and claims 23 depends from claim 22 and includes all the limitations found therein, and are therefore allowable for the same reasons. In addition these claims recite additional limitations which in combination with the limitation of the claims from which they depend, are not disclosed or suggested in the art of record.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Dated: September 17, 2007

Respectfully submitted,

By 

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